



Appl. No. 10/527,214

Amendment Dated April 16, 2007

## CLEAN VERSION OF SUBSTITUTE SPECIFICATION:

### OPTICAL MODULATOR

#### BACKGROUND OF THE INVENTION

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[0001] (1) Field of the invention:

[0002] The present invention relates to an optical modulator which is used for a light control element such as modulation of a light wave and switching of an optical path, in particular, to an optical modulator which comprises a recess in a substrate forming the optical modulator, and a control electrode formed on said recess for controlling the phase of light.

[0003] (2) Related art statement:

[0004] Optical communication systems have attracted attention corresponding to an increase in the demand for high speed, large capacity data communication systems recently. Particularly, the optical modulator where an optical waveguide is formed in the substrate using a material having an electrooptic effect is widely known as a light control element suitable for optical broadband communication systems.

[0005] Also, as an optical modulator, which corresponds to a dense wavelength division multiplexing (DWDM) technology and high speed communication technology, the optical modulator which modulates a light from CW (Continuous Wave) laser using a Mach-Zehnder Interferometer (MZI) type external optical modulator (hereinafter described as LN